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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,910	07/07/2003	Ming Hong Kuo	FP9517	4316
7590	12/30/2004		EXAMINER	
Leong C. LEI PMB#1008 1867 Ygnacio Valley Rd. Walnut Creek, CA 94598-3214				SHARMA, RASHMI K
				ART UNIT PAPER NUMBER
				3651

DATE MAILED: 12/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/612,910	KUO, MING HONG
	Examiner	Art Unit
	Rashmi K. Sharma	3651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 07 July 2003.

2a) This action is FINAL.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-7 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-7 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 07 July 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-7 are replete with instances of antecedent basis errors. A few examples are as follows: Claim 1 line 3 "a base plate", line 4-5 "the other end", line 5 "the frame connection", line 7 "the connection", line 9 "the shaft", line 13 "the support roller", line 13 "the gap". Appropriate correction is required.

Claim 1 line 9 recites "the shaft upward". The term "upward" is a relative term and further clarification is required.

Claim 1 line 11 recites "driving gears" and line 12 recites "the two driving gear". It is unclear as to which gears the Applicant is referring to. Is it the worm gears or a new set of gears being introduced? Further clarification is required.

Claim 1 line 14 recites the term "the cleansing-etching thickness" deems the claim vague and indefinite. It is unclear as to exactly what the Applicant is referring to. Further clarification is required.

Claim 1 recites "transporting units" and "transmission unit modules". It is unclear as to whether or not these two limitations are referring to the same structure or not. Further clarification is required.

Claim 2 line 3 recites "the roller". Which roller is the Applicant referring to in this instance? Further clarification is required.

Claim 2 line 3 recites "the shaft". Which shaft is the Applicant referring to? Further clarification is required.

Claim 2 last line recites "the wheels". Which wheels is the Applicant referring to? Is the Applicant referring to a new set of wheels other than the support rollers? Further clarification is required.

Claim 3 line 2 recites "the withstand circuit board" is confusing. Further clarification is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herrmann (U.S. Patent number 5,288,553).

Herrmann discloses a transporting device for a vertical-type thin circuit board etching machine comprising:

- a base plate (horizontal member above 90 in Figure 1) made of an etching resistance rigid material
- a plurality of transporting units (see Figure 8) erected in linear formation and spaced apart on the base plate
- a transmission shaft (65 or 70) passing through a frame (85 or 90) connection of a plurality of transmission unit modules (see Figure 1)
- a power source (285 or 290) connected to the transmission shaft (65 or 70)
- gear mechanism (95)
- a plurality of support rollers (105 or 110), a support roller frame in a stacked configuration (see Figure 1)
- transporting clip rollers (105 or 110) extended from a shaft tube (75 or 100) is formed into an engaging slot (see Figure 1)
- a rail (60)
- a bearing (75 or 100)

Herrmann as disclosed above, fails to show a worm gear, a rail made of a glass fiber body, an anti-acid and alkali plastic body or including a single plate formed into a flat plate.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace Herrmann's gear mechanism (95) with a worm gear in order to provide for a larger clearance or different thicknesses of circuit boards being conveyed.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the rail of Herrmann's invention with that of a glass fiber body, an anti-acid and alkali plastic body or including a single plate formed into a flat plate as they would be considered to be functionally equivalent to the Herrmann's rail and since Herrmann's invention also conveys circuit boards, it would further be obvious to provide a rail that would be made of accommodating materials to circuit boards conveyance.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rashmi K. Sharma whose telephone number is 703-306-5952. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on 703-308-3248. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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